

Patent Claims

Sub A42

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Process for the preparation of a derivative of a polymer having at least one functional group, characterized in that the process comprises the following step

(i):

(i) reaction of the polymer having at least one functional group, with at least one activating reagent or at least one derivative of an activating reagent in homogeneous phase.

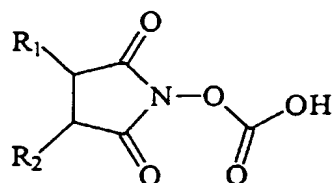
2. Process according to Claim 1, characterized in that it comprises the further step

(ii):

(ii) reaction of the reaction product from the polymer having at least one functional group and the activating reagent, with a derivatizing reagent.

3. Process according to Claim 1, characterized in that the at least one derivative of the activating reagent is obtained by prior reaction of the activating reagent with a derivatizing reagent.

4. Process according to one of Claims 1 to 3, characterized in that the activating reagent is derived from a compound of the following structure (I)



(I)

where R<sub>1</sub> and R<sub>2</sub> are identical or different and can be straight-chain, branched-chain or bridged to give a carbocycle or a heterocycle and are selected such that the activating reagent or the derivative of the activating reagent can be reacted in homogeneous phase with the polymer having at least one functional group.

5. Process according to one of Claims 1 to 4, characterized in that the functional group of the polymer having at least one functional group is an OH group, an NHR<sub>11</sub> group, an SH group, an OSO<sub>3</sub>H group, an SO<sub>3</sub>H group, an OPO<sub>3</sub>H<sub>2</sub> group, an OPO<sub>3</sub>HR<sub>11</sub> group, a PO<sub>3</sub>H<sub>2</sub> group, a PO<sub>3</sub>HR<sub>11</sub> group, a COOH group or a mixture of two or more of these groups, where R<sub>11</sub> is in each case selected such that the activating reagent or the derivative of the activating reagent can be reacted in homogeneous phase with the polymer having at least one functional group.

6. Derivative of a polymer having at least one functional group, preparable by a process which comprises the following step (i):

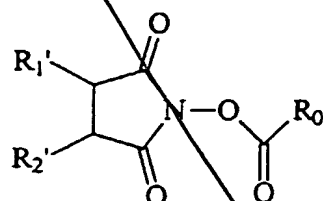
(i) reaction of the polymer having at least one functional group, with an activating reagent or a derivative of an activating reagent in homogeneous phase.

7. Derivative of a polymer having at least three functional groups, where at least two of the functional groups are derivatized in such a way that they interact with a suitable substrate as receptor groups and at least one functional group having non-substrate-specific action and/or a monomer unit without a functional group lies between two of these derivatized groups.

8. Derivative of a polymer having at least one functional group, which acts as a receptor for the binding of at least one substrate via non-covalent receptor-substrate interaction, characterized in that the binding of the at least one substrate can take place via at least two different types of interactions on account of the chemical constitution of the receptor groups.

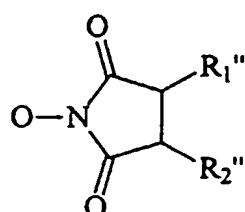
9. Process for the bonding of at least one substrate to at least one receptor group via non-covalent receptor-substrate interaction, characterized in that the compound employed having at least one receptor group is a derivative of a polymer having at least one functional group, prepared by a process according to one of Claims 1 to 5, or a derivative according to one of Claims 6 to 8.

10. Compound of the general structure (X)



(X)

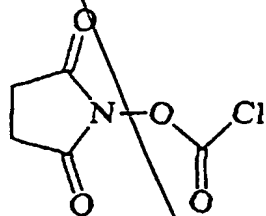
characterized in that R<sub>0</sub> is a halogen atom or a radical of the structure (X')



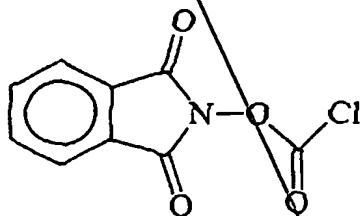
(X')

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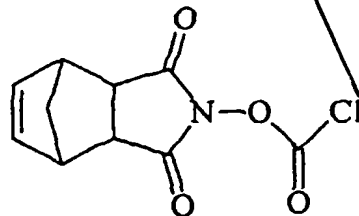
and  $R_1'$ ,  $R_2'$ ,  $R_1''$  and  $R_2''$  are identical or different and are hydrogen, straight-chain or branched-chain alkyl, aryl, cycloalkyl, heterocyclic or aralkyl radicals having up to 30 C atoms, or either  $R_1'$  and  $R_2'$  or  $R_1''$  and  $R_2''$  or both  $R_1'$  and  $R_2'$  and  $R_1''$  and  $R_2''$  are linked to at least one carbocycle or to at least one heterocycle or to at least one carbocycle and to at least one heterocycle, compounds of the following structures ( $X_1$ ) to ( $X_7$ ) being excluded:



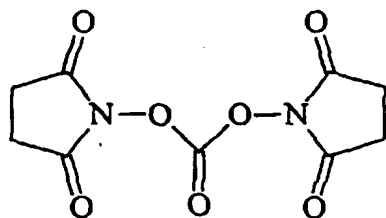
( $X_1$ )



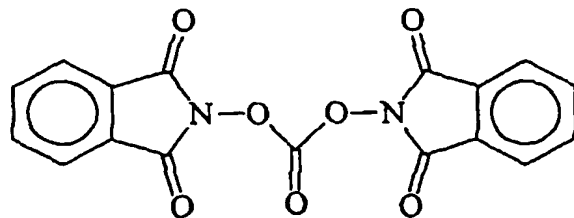
( $X_2$ )



( $X_3$ )



( $X_4$ )



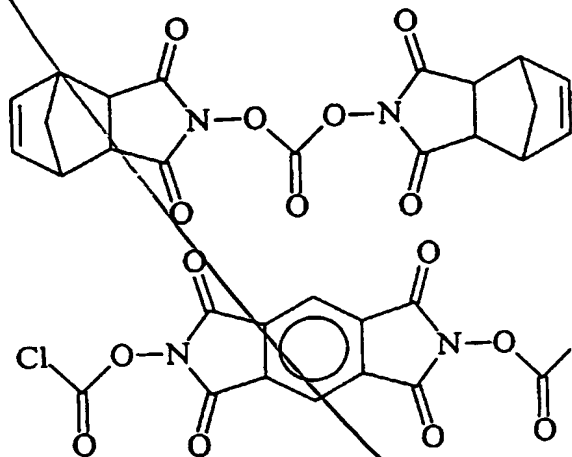
( $X_5$ )

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Sub A43

Sub A43

- 43 -



(X<sub>6</sub>)

(X<sub>7</sub>)

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